

**REMARKS**

Claims 1-10 and 14-16 are pending in this application.

As a preliminary matter, Applicants thank the Examiner and his primary Examiner, Mr. Carl J. Arbes, for an in-person Office Interview conducted on Thursday, June 26, 2004, at 10am. For purposes of expedition, claims 1, 2, 5, 6 and 14 have been amended in several particulars for purposes of clarity and brevity that are unrelated to patentability and prior art rejections in accordance with current Office policy, to define Applicants' disclosed invention and to assist the Examiner to expedite compact prosecution of the instant application. Claims 1, 2, 5, 6 and 14 have been amended to clearly define of what was implicated in the use of "first and second flat members with flat surfaces arranged in parallel at opposite sides of a disc relative to a center axis of the hub, to center the disc relative to a center axis of the hub after the disc is mounted onto the hub", in addition to the specific steps taken to ensure that the disc is accurately and efficiently centered with respect to the center axis of the hub in both vertical and horizontal directions.

In contrast to Applicants' base claims 1, 2, 5, 6 and 14, Schmidt '505, as a primary reference, only disclose the use of a single registration arm having two contact points 52, 54, as shown in FIG. 2, arranged only on one side of a disc, and such contact points 52, 54 are incapable of positioning the disc relative to a center axis of the hub in the X-Y plane (i.e., both vertical and horizontal directions). As a secondary reference, Kuno '382 only uses pneumatic pressure to align the disc relative to the hub, which is prone to errors and unbalance of rotation.

Therefore, as amended, Applicants' base claims 1, 2, 5, 6 and 14 are believed to be distinguishable over the cited prior art, including Schmidt '505 and Kuno '382.

Turning now to the substance of the rejection, claims 1-10 and 14-16 have been finally rejected under 35 U.S.C. §103(a) as being unpatentable over newly cited art, Schmidt et al., 4,683,505, in view of Kuno, U.S. Patent No. 5,572,382 for reasons stated on pages 3-5 of the final Office Action (Paper No. 10). Specifically, the Examiner asserts that Schmidt '505 allegedly discloses all features of Applicants' claims 1-10 and 14-16, except for "measuring the difference between the outer diameter of the hub and the inner diameter of the disc and pressing back the disc to a half of an amount of tolerance between the inner diameter of the disc and the outer diameter of the hub" which is alleged disclosed by Kuno '382, on FIGs. 4A-4B; column 6, lines 54-58.

As previously presented in the Amendment filed on June 22, 2004, Schmidt '505 does **not** disclose what the Examiner alleges, and the subject matter of Kuno '382 is **not** compatible with Schmidt '505 and, if incorporated into Schmidt '505 in the manner proposed by the Examiner, the proposed incorporation will not arrive at Applicants' claims 1-10 and 14-16 for many reasons.

First of all, claims 1-10 and 14-16 clearly define the use of two flat members 4, 7, as shown in FIG. 1 and FIG. 3, arranged in parallel on opposite sides of a disc relative to a center axis of the hub, which have flat surfaces that are used to press evenly against the outer circumferential edge of the disc. The use of such flat surfaces is advantageous because the eccentricity of the disc can always be efficiently corrected even if the hub and the flat members are roughly positioned on the X-Y plane. In other words, since the flat member has a flat surface in contact with an outer circumferential edge of the disc, the eccentricity of the disc in the Y-direction can be corrected by pushing the disc in the Y-direction on the X-Y plane

from the X-direction and, likewise, the eccentricity of the disc in the X-direction can be corrected by pushing the disc in the X-direction on the X-Y plane from the Y-direction. As a result, the disc can be accurately and reliably centered.

In contrast to Applicants' claims 1-10, the newly cited art, Schmidt '505 discloses a disk pack assembly as shown in FIG. 1, using tools such as a multiple set of registration arms 50, 60, 70 and registration plungers 58, 68, 88 used to alternately center the disks 8, 10, 11, as well as registration arms 90, 91, 92 and registration plungers 94, 95, 96 used to alternately center the spacers 23, 24, 25. The purpose of Schmidt '505 is to alternately diametrically offset the disks and spacers about the spindle hub so that imbalance moments caused by variations in mass distribution about the spindle axis in the disks from a nominal sized disk are spread out over an increased number of axial nodal points to minimize the amplitude of the associated vibration. See column 4, lines 25-30 and lines 35-47 of Schmidt '505.

In order to achieve this purpose, Schmidt '505 uses a series of registration arms positioned at different reference points to ensure proper mass offset. For example, 1<sup>st</sup> registration arm 50 having two contact points 52 and 54, as shown in FIG. 2, is positioned at a reference point. A corresponding registration plunger 58 is then used to push or drive the disk 8 against the two registration contact points 52 and 54 of the 1<sup>st</sup> registration arm 50 at that reference point. Once the disk 8 is pushed against the two registration contact points 52 and 54, positioned at that particular reference point, a next registration plunger 68 is used to push or drive another disk 9 against the two registration contact points 62 and 64 of another

registration arm 60 positioned at another reference point. This way mass offset can be achieved.

However, such registration contact points 52 and 54 are frequently ineffective to position the disc relative to a center of the hub, because the contact points 52 and 54 must be strictly positioned correctly in the X-Y plane in order to correct the eccentricity of the disc.

Moreover, Schmidt '505 does **not** disclose or suggest any process of pressing an outer circumferential edge of the same disc back and forth as mistakenly believed by the Examiner. For example, Schmidt '505 does **not** disclose or suggest the step of "pressing back the outer circumferential edge of the disc contact with the first flat member and the outer circumferential edge of the disc at an opposite position to the center of the disc in an inverse direction to a pressing direction of the first flat member by a second flat member arranged in parallel to the first flat member in an opposite side to the center axis of the hub until the outer circumferential surface of the hub and the inner circumferential edge of the disc are in contact with each other, and measuring a difference between the outer circumferential surface of the hub and the inner circumferential edge of the disc" as expressly defined in Applicants' base claims 1, 2, 5 and 6, and as mistakenly believed by the Examiner.

More importantly, Schmidt '505 does **not** disclose or suggest the use of two flat members 4 and 7 having flat surfaces, as shown in FIG. 1 and FIG. 3 of Applicants' disclosed invention, arranged in parallel on opposite sides of a disc relative to a center axis of the hub, that are used to press evenly against the outer circumferential edge of the disc. The use of such flat surfaces is advantageous

because the eccentricity of the disc can always be efficiently corrected even if the hub and the flat members are roughly positioned on the X-Y plane.

Kuno '382, as a secondary reference, does **not** remedy the noted deficiencies of Schmidt '505 in order to arrive at Applicants' claims 1-10 and 14-16. This is because Kuno '382 discloses nothing more than the previously known equipments used to fit such a disc relative to a rotor using **pneumatic pressure**. Specifically, on column 6, line 33 extending to column 7, line 19, Kuno '382 discloses that,

"the magnetic disk 16A is fitted onto the rotor yoke 11 in a manner such that the yoke 11 is in its center hole 16a. This operation can be automatically performed by holding the magnetic disk by **air suction using an automatic fitting machine** (not shown). More specifically, a hatched portion of the magnetic disk 16A, as shown in FIG. 4A, is held by air suction by means of the fitting machine, and the disk 16A is fitted on the outer periphery of the rotor yoke 11..."

Then, the air suction by the automatic fitting machine is removed. When these processes are executed, centering the magnetic disk 16A is finished, and the disk 16A is mounted on the rotor yoke 11 in a manner such that the gap between the inner circumferential edge of the disk 16A and the outer circumferential surface of the yoke 11 is uniform throughout the circumference..."

As can be seen from the cited portion, and FIGs. 4A-4E of Kuno '382, the disk is centered using well-known equipments utilizing **pneumatic pressure** to align the disc relative to the hub. However, these equipments are susceptible to errors and unbalance of rotation since the hub can be deformed or impacted due to heating and cooling operation. Again, if **pneumatic pressure** is used in the manner described by Kuno '382, then there is **no** reason or motivation for any one to utilize flat members having flat surfaces provided to press the disc back and forth in the manner defined in Applicants' claims 1-10.

In order to establish a *prima facie* case of obviousness under 35 U.S.C. §103, the Examiner must show that the prior art reference (or references when combined) must teach or suggest all the claim limitations, and that there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skilled in the art, to modify the reference or to combine reference teachings, provided with a reasonable expectation of success. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and **not** based on Applicants' disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 2143. In other words, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USQP 494, 496 (CCPA 1970).

Moreover, "obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." ACS Hospital System, Inc v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). The Examiner must point to something in the prior art that suggests in some way a modification of a particular reference or a combination of references in order to arrive at Applicants' claimed invention. Absent such a showing, the Examiner has improperly used Applicants' disclosure as an instruction book on how to reconstruct to the prior art to arrive at Applicants' claimed invention. Furthermore, any deficiencies in the cited references cannot be remedied with conclusions about what

is "basic knowledge" or "common knowledge". See In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002).

In the present situation, neither Schmidt '505 nor Kuno '382 discloses or suggests key features of Applicants' claims 1-10 and 14-16 relating to the use of two flat members 4, 7, as shown in FIG. 1 and FIG. 3, arranged in parallel on opposite sides of a disc relative to a center axis of the hub, which have flat surfaces that are used to press evenly against the outer circumferential edge of the disc. Moreover, in view of the foregoing explanation and the noted deficiencies of Schmidt '505 and Kuno '382, Applicants respectfully request that the rejection of claims 1-10 and 14-16 be withdrawn.

Nevertheless, on pages 5-6 of the final Office Action (Paper No. 10), the Examiner seems to acknowledge that neither Schmidt '505 nor Kuno '382 discloses Applicants' use of two flat members 4, 7, as shown in FIG. 1 and FIG. 3, arranged in parallel on opposite sides of a disc relative to a center axis of the hub, which have flat surfaces that are used to press evenly against the outer circumferential edge of the disc, but argues that,

"it would be obvious to one of ordinary skill in the art to consider a pressing member to be the registration arm or plunger (Cf. Fig. 2, elements 50 and 58) or a flat member with a flat surface or a curved surface member or a single point member or multiple points since it is well known in the art that the disc is to be pressed at opposite and parallel directions that must pass through its center (Cf. Col. 2, lines 11-18; 4, lines 1-15), thus any member type designed to press the disc in parallel, at opposite ends of the disc and in a direction through the disc center won't have any possibility to skew the angle movement of the disc."

However, this line of argument undermines the legal standard of determining obviousness under 35 U.S.C. §103. Not only the Examiner fails to show, and has

now admitted, that neither Schmidt '505 nor Kuno '382 discloses Applicants' use of two flat members 4, 7, as shown in FIG. 1 and FIG. 3, arranged in parallel on opposite sides of a disc relative to a center axis of the hub, which have flat surfaces that are used to press evenly against the outer circumferential edge of the disc, there is absolutely **no** suggestion or motivation for an artisan to modify Schmidt '505 to incorporate selected features from Kuno '382 in order to arrive at Applicants' claims 1-10 and 14-16.

More importantly, Applicants' use of two flat members 4, 7, as shown in FIG. 1 and FIG. 3, arranged in parallel on opposite sides of a disc relative to a center axis of the hub, which have flat surfaces that are used to press evenly against the outer circumferential edge of the disc, constitute the very novel features of Applicants' disclosed invention and, as such novel features, the Examiner may **not** rely on matters of judicial notice at exact point at which patentable novelty is argued. Ex parte Cady, 148 U.S.P.Q. 162 (POBA 1965). Determination of obviousness must be based on facts, not on unsupported generalities.. In re Warner, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967); In re Freed, 425 F.2d 785, 165 USPQ 570 (CCPA 1970). "It is fundamental that rejections under 35 U.S.C. §103 must be based on evidence comprehended by the language of that section." In re Grasselli and Hardman, 713 F. 2nd 731, 739, 218 USPQ 769, 775 (CA FC 1983).

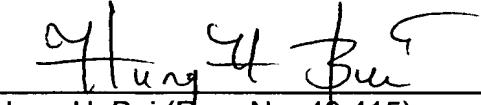
As previously discussed, in contrast to Applicants' use of flat surfaces of the first and second pressing members arranged in parallel at opposite ends of the hub, so as to center the disc with respect to the center axis of the hub in both X and Y directions, Schmidt '505 uses contact points 52 and 54 which do not and cannot center the disc with respect to the center axis of the hub in both X and Y directions.

In view of the foregoing amendments, arguments and remarks, Applicants respectfully request that the rejection of claims 1-10 and 14-16 be withdrawn, and that all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney at the Washington DC area office at (703) 312-6600.

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage of fees due in connection with the filing of this paper, including extension of time fees, to the Deposit Account of Antonelli, Terry, Stout & Kraus, No. 01-2135 (Application No. 500.40538X00), and please credit any excess fees to said deposit account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

By   
Hung H. Bui (Reg. No. 40,415)  
Attorney for Applicant(s)

HHB:btd

1300 North Seventeenth Street, Suite 1800  
Arlington, Virginia 22209  
Tel.: (703) 312-6600  
Fax: (703) 312-6666